Opencut Mining Program

April 24, 2007

RE: Final Environmental Assessment (EA) and Application Decision on Fisher Sand and Gravel's Proposed Fluke Gravel Pit

To All Interested Parties:

Enclosed is a copy of the Department of Environmental Quality's Final EA, which includes specific responses to comments on the Draft EA issued on March 13, 2007, and other modifications as necessary to the Draft EA. The Draft EA was mailed to 12 parties that showed an interest in the project, including local residents who have shown interest in the Nuss Pit, Gallatin County Commissioners, the Gallatin County Road and Bridge Department. The comment period on the Draft EA ended March 28, 2007. Some letters and phone calls were received after that date, and responses have been included in the Final EA. Comments were received from twelve persons.

The enclosed Final EA incorporates and discusses concerns, issues, and impacts that were raised during the public comment period. The main categories of comments focused on traffic through Gallatin Gateway and on Gateway South Road, limiting the permit timeframe, cumulative impacts, effects on adjacent property values, and impacts on water by the proposed operation. The Department has determined that there would be no significant impacts resulting from the proposed mining operation.

The Final EA and this cover letter are also available at http://www.deq.mt.gov/ea/opencut.asp. If you would like to print the document from this Internet site, be advised that several minutes will be required for the graphics to be printed.

The Department has determined that Fisher Sand and Gravel's application complies with the provisions of the Opencut Mining Act. Therefore, the Department will approve the application.

If any person wishes to challenge the Department on the Final EA for this proposed gravel mining operation, he or she may do so as follows. The Montana Environmental Policy Act (MEPA), which provides for the legal authority and basis for the preparation of EA's and environmental impact statements by state agencies, states at 75-1-201(6), MCA: "A challenge to an agency action under this part may only be brought against a final agency action and may only be brought in district court or in federal court, whichever is appropriate. Any action or proceeding challenging a final agency action alleging failure to comply with or inadequate

compliance with a requirement under this part must be brought within 60 days of the action that is the subject of the challenge."

Regarding approval of the Fluke Pit permit application, the Opencut Mining Act at 82-4-427, MCA provides: "(1) A person who is aggrieved by a final decision of the department under this part is entitled to a hearing before the [Board of Environmental Review], if a written request is submitted to the board within 30 days of the department's decision. (2) The contested case provisions of the Montana Administrative Procedure Act, Title 2, chapter 4, part 6, apply to a hearing held under this section." Requests for a hearing under this provision must be submitted to: Secretary; Board of Environmental Review; P.O. Box 200901; Helena, MT 59620-0901.

Questions regarding any of the above matters may be directed to Jo Stephen at (406) 247-4435 or me.

Sincerely,

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JS/nh

FINAL ENVIRONMENTAL ASSESSMENT

Application for the Fluke Pit

This environmental assessment (EA) is required under the **Montana Environmental Policy Act (MEPA**). An EA functions to identify, disclose and analyze the impacts of an action, in this case operating a gravel pit over which the state must make a decision. MEPA sets no environmental standards even though it requires analysis of both the natural and human environment. This document may disclose many impacts that have no legislatively required standards or over which there is no regulatory authority. The state legislature has provided no authority in MEPA to allow the Department of Environmental Quality (DEQ) or any other state agency to require conditions or impose mitigations on a proposed permitting action that are not included in the permitting authority and operating standards in the governing state law, such as the Opencut Mining Act, the Clean Air Act of Montana, or any other applicable state environmental regulatory law. Beyond that, a company may agree to voluntarily modify its proposed activities or accept permit conditions.

The state law that regulates gravel-mining operations in Montana is the **Opencut Mining Act**. This law and its approved rules place operational guidance and limitations on a project during its life, and provide for the reclamation of land subjected to opencut materials mining. This law requires that a bond, cash deposit or other financial instrument be submitted to the state to cover the complete cost of reclaiming the site to its approved, post-mining land use.

A permit decision cannot be based upon the popularity of the project, but upon whether or not the proponent has met the requirements of the Opencut Mining Act, pursuant rules, and other laws pertaining to his proposed actions.

SITE NAME: **Fluke** APPLICANT: **Fisher Sand & Gravel**

LOCATION**: SW of Sec 15, T3S R4E** COUNTY: **Gallatin**

PROPOSED ACTION: **Fisher Sand and Gravel proposes to mine and crush 75,000 cubic yards of gravel from a 12.9-acre site. An asphalt plant is also being requested. The proposed site is on a terrace just west the Gallatin River. The northern 6 acres of the proposed permit area would be**

mined and the southern 5+ acres would be used for the location of the crusher, stockpiles, and asphalt plant. An access road to the permit area would be built from Gateway South Road.

The major use for this material would be for a Montana Department of Transportation (MDT) highway construction project # NH 50-2(52)31 between Yellowstone Park and Big Sky on Highway 191, about 20 miles to the south. Truck traffic for this MDT job would turn south on Gateway South Road to its intersection with Highway 191 (approximately 3.5 miles) and then proceed southward on the highway.

Reclamation would be completed to a 6-acre wildlife pond and pasture land by June 2010. The reclamation bond is $17,035.

Comments and Responses on the Fisher Fluke Application

The Draft EA was mailed out to 12 parties. Availability of the EA was advertised in the Bozeman Chronicle and it was published on the DEQ web site. The public comment period closed on March 28, 2007, but some comments were received after that date and responses to them have been included below.

Twelve persons commented on the Draft EA. Comments and concerns pertained to the permitting process, traffic safety, traffic patterns, road maintenance, access across the Noble Ditch, noise, water quality and quantity, air quality, depreciating property values, and cumulative impacts of this site with the existing Nuss pit to the north. Responses to these issues are listed below and in some cases added to the proper resource section of the EA.

Comment: There should be a commitment from the mining company or the property owner that no expansion or time extension would be requested for this mine.
Response: Although the proponents or landowner might make such a commitment, DEQ could not enforce it. Even if it were included in the plan, the Opencut Act allows the permittee to request an amendment at any time [82-4-432(5), MCA]. If an application to remove such a provision from the permit were submitted by the permittee at a later date, DEQ could not refuse to grant an otherwise appropriate amendment application. The County may have regulations that would apply to this issue or some civil agreement might be agreed upon between the applicant and concerned citizen.

Comment: If an amendment to the permit were submitted it should be analyzed through an EIS so the public would be allowed significant involvement and significant scientific data could be developed.
Response: If an amendment were submitted, it would be processed through the Opencut Act and MEPA, and must meet the same legal and environmental standards as the original permit.
Under the Montana Environmental Policy Act (MEPA) the main functions of an EA are to analyze and disclose the impacts of a proposed action and determine if any of the impacts would be "significant." The term "significant" is the trigger mechanism for requiring an EIS.

An EA does allow for public involvement, comment, and action by appropriate local governmental agencies. Local governments are informed of all applications and provided with a plan of operations. In this case a copy of the application was sent in January 2007 to the county for its scrutiny. Based upon the application, the County Road and Bridge Department placed eleven stipulations in its Encroachment Permit that have to do with Gateway South Road, its maintenance, and dust control. The county planning department received the application in January, after which it stated this gravel pit does comply with county zoning regulations.

The DEQ is not required to notify individuals of the receipt of an application unless it is specifically requested. If any persons have shown an interest in gravel mining in an area, we do mail the EA to those persons without a specific request. In this case 8 local persons were mailed the draft EA. All DEQ EAs are posted on its web site. To allow greater local involvement, the availability of this EA was published in the local newspaper along with information about the comment period, persons to contact, etc.

In 1979, the Montana Supreme Court held that the statutorily required 60-day review period for hard rock mining permit applications does not provide adequate time for preparation of an EIS (Kadillak v. the Anaconda Company, 184 Mont., 127, 602 P2d 147 (1979)). The Opencut Mining Act provides that DEQ must make a permit decision within 60 days of receipt of a complete application. Therefore, DEQ's chief legal counsel has advised that under a 60-day review requirement, the EIS requirement of the Montana Environmental Policy Act (MEPA) is not applicable to opencut mining permit applications. As a result, DEQ would prepare an environmental assessment (EA) on any amendment to the proposed Fluke operation.

Comment: Numerous comments were received on the amount of truck traffic and the speed of truck traffic through Gallatin Gateway and on Gateway South Road.
Response: DEQ recognizes these concerns but, as stated in the EA, has no authority over traffic on county or state roads. The county road department has required the Montana Department of Transportation's (MDT's) main contractor, Prince, Inc., to comply with 11 stipulations in its Encroachment Permit. These include maintaining Gateway South Road and performing dust control on it. Speed limits are set by the county commissioners on county roads.

Comment: The cumulative impacts of this pit and the Nuss pit should be analyzed.
Response: The EA does talk about cumulative impacts but does not specifically designate them as such. DEQ recognizes there is or may be a potential for increased effects when there are several operations in proximity to one another. For example, we would expect to see some increase in traffic, dust, odor, and noise in the local area when some of these operations operate simultaneously. More information about these issues has been added to the EA text below.

Comment: If the project is for this year's work, why is the reclamation date 2010?
Response: DEQ requires the site be reclaimed and the vegetation growing before the site would be considered to be reclaimed. After the site gets graded, topsoil is replaced, and the site is seeded, a few years would be required for vegetation to become established. So even though site operations were completed this year, 2010 would probably be the earliest date to expect reclamation to be complete.

Comment: We vehemently object to the crusher operating 24 hours per day. We have heard that the crusher would be out sooner, but if the pit is going to operate until 2010, why the rush? Why do other pits have different restrictions on hours?
Response: The function of this pit is to manufacture material for the repaving of Highway 191 under an MDT contract. The gravel must be mined, crushed and sorted into numerous different products before the asphalt can be made and the highway work commence. The application states that mining and crushing would be completed in July of this summer. MDT has tight time frames on its contracts. In addition, asphalt cannot be laid when it is cold.

Hours of operations are imposed upon operations pursuant to 82-4-434(2)(o), MCA. This law is limited to minimization of impacts "to the degree practicable through … reasonable hours of operation". What is practicable and reasonable for a long term commercial operation like the Nuss Pit is different from something like the Fluke site with its MDT contract restrictions.

Comment: Our property values will go down with a gravel pit so close.
Response: There are little real data on this issue. However, because this issue has been raised innumerable times over the years, the State contracted for a study to determine "whether the existence of a gravel pit and gravel operation impacts the value of surrounding real property." The study conducted in 1998 in Flathead County is entitled: "Gravel Pits: The Effect on Neighborhood Property Values," by Phillip J. Rygg, MAI, Appraisal Research Group, Kalispell, Montana, February 1998. The study found no decrease in sales prices with comparable real properties not located near gravel pits. In his review of the study Jim Fairbanks, Region 3 Manager of the Montana Department of Revenue, Property Assessment Division said:

> "In the course of responding to valuation challenges of ad valorem tax appraisals, your reviewer has encountered similar arguments from Missoula County taxpayers regarding the presumed negative influence of gravel pits, BPA power lines, neighborhood character change, and traffic and other nuisances. In virtually all cases, negative value impacts were not measurable. Potential purchasers accept newly created minor nuisances that long-time residents consider value diminishing."

Comment: The DEQ is overly dismissive of [some water] issues… We agree that the risk of a serious groundwater contamination is low, but argue that your agency should not conclude such a risk is insignificant. Installation of at least one down-gradient monitoring well and immediate clean-up of all spills should be required.
Response: The DEQ still believes the potential impact due to release of equipment fluid to be insignificant. The commenter noted various potential sources of contamination related to equipment operations and maintenance. These potential sources were not specifically identified in the Draft EA, but we agree that equipment leaks, spills during transfer of equipment fluids, or ruptures in hydraulic systems can occur. Contaminants could enter the ground water by either direct discharge or carried by surface water run off into the pit. While the possibility of spills always exists, it was stated in the EA that federal and state requirements would be met. Those federal and state requirements were developed to provide protection in case of spills or accidents. Proper storage, immediate containment and clean up of any spills is required and is part of the operations plan. Because of these factors and that, if spills or leaks occurred, they would probably be quite limited in volume, DEQ believes that the consequences if such spills would likely be insignificant. DEQ is mandated to protect state waters.

Requiring a monitoring well where, under the best of circumstances, it might take up to a week to get results back from a lab, seems to defeat the purpose of prompt response. A minute amount of petroleum product that made it to the pond by whatever method would be instantly visible as a sheen on the water surface. Cleanup could start immediately. A great application of this concept occurred outside of Billings where up-gradient groundwater contamination from another location was discovered when a sheen appeared in a gravel pit pond. The EPA used that pond as a main monitoring point and indicator of its cleanup efforts.

Comments: Who would be responsible if our wells were contaminated? Would DEQ test them?
Response: If groundwater were contaminated by this operation, the permittee would be held responsible and pay for all clean up. Testing and clean up would be under the authority and scrutiny of DEQ. The intent of this EA is limited to assessing potential impacts and preventative measures. Nearby wells are a more than 1,000 feet from the site and are between 40 and 60 feet deep. A 200' deep well is approximately 200' south and up gradient of the site, and has a static water level of 120' below the surface of the ground (Ground Water Information Center). The potential for this site to contaminate

water wells is limited due to proximity, depth of mining compared to near-by wells, and preventative measures and cleanup as described in this EA.

Comment: The pond created by this proposed mine will increase the temperature of the aquifer more than the 1 degree C stated in the EA because the pond depth would only be 5 to 7 feet maximum rather than the 15 feet stated in the EA.
Response: The depth of the pond would fluctuate with the groundwater table mainly because of the season of the year and amount of irrigation. Winter/early spring has the lowest water table and late spring/summer has the highest. The on-site test holes dug in November 2006 represent the low water table which was between 7.5 and 8.5 feet. At this time there is not a high water table measured on site although just down-gradient to the north it has been reported to be 4 feet during irrigation season. The State of Montana has two monitoring wells in the Gallatin Valley aquifer, each about 3 miles away. Those wells' seasonal fluctuations are from 4 to 7 feet with the high water table being 4 feet below ground surface. Considering these data it is likely that the pond depth would fluctuate seasonally between 7 and 11 feet below ground surface. The depth in the Final EA text below has been changed to 11 feet. The point is that a deeper pond would provide a larger volume of pond water to mix with the aquifer, as compared with a shallower pond. This would be more protective than a pond of lesser depth and smaller volume.

Many factors affect pond water temperature. Insolation or sunlight on the pond is the warming mechanism. Pond water is cooled by evaporation (controlled by air temperature, wind speed, humidity) radiation of heat at night, convection within the water column, and the addition of cool water, mainly groundwater, of which the controlling factors are temperature and volume.

Heat exchange is going on constantly. Down-gradient effects to the aquifer would depend on the heat energy added to groundwater from the pond, as well as the temperature and volume of groundwater upstream and downstream of the pond.

The EA referenced two research papers that delineated "in the field data" showing that the groundwater temperature rise of less than 1º C dissipated within 200 to 500 yards down gradient.

The following facts are specific to this area and aquifer:

- the high rate of flow in the aquifer as reported in water rights applications for community water systems in this aquifer, as opposed to the volume of water in the pond,
- the relatively cold year round aquifer temperatures of 49 to 51º F as reported by Zoot Enterprises in monitoring its heat exchange system, and
- the mild daytime and cool nighttime air temperatures that allows for radiational heat loss.

Given the above information, no measurable thermal effects to groundwater outside the immediate area of the pond would be anticipated.

Comment: It is unclear what dust suppression measures are contemplated for this site.
Response: The EA states that operations of the pit and crusher would require about 2,000 gallons per day. This amount is almost totally for dust suppression in the facility area as well as minor auxiliary uses. Since this gravel would be damp to wet, with much of it being mined by excavator, the crusher would use a minimal amount of water. No gravel washing is being requested at this site. Since it is a heated process, asphalt production does not require water. The 2,000 gallons per day is a very reasonable amount.

Gateway South would be treated with magnesium chloride, a chemical dust suppressant, as required by the county road department. Depending upon road and climate conditions the initial application and

maintenance of the roadway could require an estimated 0 to 50,000 gallons of water total for the life of the project. A section was added to the EA discussing the use of magnesium chloride.

Comment: The ditch to the east is a supply ditch and not wastewater.
Response: DEQ apologizes for the misstatement. It has been corrected in the EA text below.

Comment: State law, 70-17-112, MCA says that, "No person may encroach upon or otherwise impair any easement for a canal or ditch used for irrigation."
Response: The applicant has contacted the ditch company and be informed of what would be necessary to cross the Noble ditches. The ditch to the east, the Dickerson ditch, would not be disturbed.

Comment: Mining close (within 100 feet) to the eastern supply ditch could result in severe damage to the ditch, including undercutting, instability, leakage into the pit, and a decrease in the amount of water the ditch could deliver. The ditch should be lined with bentonite … so that no water will be lost to the gravel pit.
Response: Under state law adverse impacts to the ditch would not be allowed. No disturbance is allowed outside the permit boundary. The north portion of the proposed site is where the pit would be dug. The permit boundary at this location is over 300 feet from the ditch. The facilities area is in the southern part of the permit area. A small corner of the facilities area gets within about 75 feet of the ditch. The facilities area would have topsoil removed for later replacement and reclamation but no pit or hole would be dug. The entire site would be contoured to slope internally. No impacts to this ditch are anticipated.

Comment: The Department of Natural Resources and Conservation (DNRC) has not received an application for pond construction.
Response: It is DEQ's understanding that no permit is required for a wildlife pond. The landowner would have to contact DNRC to change the purpose of the pond.

Comment: **A** water right is required for water use over 35 gallons per minute.
Response: The second part of this requirement is that no more than a total of 10 acre feet (about 3,000,000 gallons) can be used. The EA discussed water usage in the permit area as being about 2,000 gallons per day. An additional section about the amount of water required for application of magnesium chloride on Gallatin South Road and maintenance throughout the summer was added to the EA. Total water usage for the duration of the road construction job would be about 400,000 gallons.

A: Significant Unavoidable Impacts B: Insignificant as a result of conditioned mitigation C: Insignificant as proposed
L: Long term Impacts S: Short Term Impacts

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
PHYSICAL ENVIRONMENT						
1. TOPOGRAPHY			X	X		The site is on a flat, alluvial terrace about 30 feet above and 300 feet west a side channel of the Gallatin River. The topography slopes from the south southwest to the north northeast and drops about 10 feet over the 800-foot long permit distance.

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						The proposed location of the access road along the north boundary of the Fluke property would cross two branches of the Noble ditch. The applicant has contacted the ditch company to ascertain its requirements for crossing the ditch. Permission was granted by the ditch company to use the requested road location. The Dickerson supply ditch running between the site and the Gallatin Floodplain area would not be disturbed. The mine pit would fill with groundwater leaving a permanent 6-acre wildlife pond feature.
2. GEOLOGY; Stability			X	X		The site's alluvium consists of geologically recent gravels, cobbles and boulders that have washed down from the Madison and Gallatin Ranges. The mined alluvium would be mechanically altered and permanently removed from its present location. The majority of material would be used to overlay about 20 miles of Highway 191 between Yellowstone Park and Big Sky. No available gravel resources are located near the construction site. The site would be reclaimed to a stable condition.
3. SOILS; Quality, Distribution			X		X	Soils at the site are a Sudworth-Nesda rocky loam complex and are highly permeable. Topsoil and overburden depths are quite variable ranging from 0 to 24 inches. In general, the soil averages about 9 inches and the overburden averages 12 inches. The site has been irrigated for hay production. Topsoil and some overburden salvage and replacement are required under the Opencut Act. In reclaiming pond areas topsoil replacement is only required to the water line. Some excess topsoil from the mine area should be available for reclamation of the facility area. Salvage and replacement would result in minimal adverse impacts to this soil type. Average annual precipitation is between 15 and 19 inches.

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
4. WATER; Quality; Quantity; Distribution			X		X	No springs are visible on the site. The Dickerson supply ditch runs between the site and the Gallatin River flood plain about 100 feet east of the proposed permit boundary. Two branches of the Noble ditch run to the west and would be crossed by the access road. Except for installation of culverts in the Noble ditch, none of these water supply features would be impacted. At reclamation the access road would be reduced in width but would be left in a condition consistent with the post-mine land use. The Gallatin River is located between 300 and 1,000 feet away to the east and about 20 feet lower in elevation. The site would drain inward toward the 6-acre pit area so runoff would be contained on-site and would not reach any other surface water. Test pits were dug in November 2006. Groundwater was intercepted at about 8 feet. A Fluke property well drilled in July 1995 had a static water level of 10 feet when drilled. North of the property the water table rises to about 4 feet during the summer irrigation season. The 6-acre mine area would be excavated to a maximum depth of 11 feet and reclaimed to a wildlife pond. Any excavation conducted below the water table would be done with a track hoe. No dewatering is requested. Fuel tanks would be installed in accordance with state and federal berming and spill containment guidelines. Asphalt solidifies around 150 degrees F. If any asphalt were to be spilled it would not migrate or contaminate groundwater. Asphalt truck beds are treated so the asphalt slips out easily and cleanly at the delivery point. The truck treatment area would slope inward, would be lined, and then filled with sand to absorb any spilled material. The sand would then be removed and properly disposed of. Operation of this pit and crusher would require about 2,000 gallons of water per day, or a little over a gallon per minute. This would be almost exclusively

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						for on site dust suppression. Pursuant to the Gallatin County Encroachment Permit (attached), the Gateway South Road must be treated with magnesium chloride as a dust suppressant. The initial application requires that the top few inches of roadway be damp. At this time of year roadways are in prime condition for treatment, but depending on conditions during the day(s) of application, a water truck may dampen the road surface. During the life of the project, very hot, dry conditions may break down the surface bonding. The roadway would be watered to facilitate grading and reworking the material. It is reasonable to assume that maintenance may occur once or twice during the construction season. The estimated total volume of water necessary for these purposes would be from 0 to 50,000 gallons. It is unknown how much pond temperatures would increase during the summer months. Pond water is warmed to some degree by higher seasonal temperatures in the spring and summer. The proposed post-mine pond would be up to 11 feet deep. Groundwater temperature is about 50 degrees F as measured at Zoot Enterprises over the last 4 years. Groundwater flow is expected to be relatively great through the highly transmissive gravels. Studies of the effect of heating in gravel pit ponds (Ostrander and others, 1998; Harden Environmental, 1995) have shown that gravel pit ponds located adjacent to or very near rivers typically have minimal impact on the heating of down gradient groundwater and that the small thermal gains (<1 degree C) measured in pit ponds are quickly dissipated. No increase in surface water temperatures of adjacent or nearby streams was measured. There would be no measurable adverse impacts to water quality or quantity from operating this pit.
5. AIR; Quality			X		X	Air quality standards are based upon the Clean Air Act of Montana and pursuant rules. The air quality program is administered by the DEQ Air Resources Management Bureau (ARMB). DEQ has an Environmental Protection Agency (EPA)-approved

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						air quality program. Permits and permit conditions are established to promote compliance with all applicable air quality rules and standards. These rules and standards are designed to be protective of human health and the environment. The crusher and asphalt plants are permitted by ARMB. To control dust, crushers are equipped with water spray bars. Asphalt plants are equipped with bag houses or a recycling water scrubber system. Fugitive dust from the floor of the facility area would be controlled with the use of water trucks or possibly an environmentally-approved dust suppressant agent. The major contractor would use a chemical dust suppressant, magnesium chloride, on Gateway South Road and would maintain it during the highway contract term in accordance with an agreement with the county road department. Air quality impacts would be minimal. Fugitive dust is regulated by ARMB. Each major piece of equipment, crusher, and asphalt plant have individual permits with emissions limits. Fugitive dust is also regulated by the opacity method. ARMB has been monitoring particulate matter in the Gallatin Valley for many years. This covers the cumulative impacts of all activities in the valley. Results from the monitoring site outside Belgrade have been consistently lower than federal and state standards, and air quality in the Gallatin Valley is considered to be in attainment of the ambient air quality standards, which were set at levels that will protect public health and welfare. Odor is not regulated by ARMB. An increase in diesel fumes from on-site generators and trucks would occur. The Nuss pit does not at present have an asphalt plant although it is permitted to have one. A plant could be moved in at any time. If that were to occur, total odor in the vicinity would increase. Whether or not this would actually be a cumulative effect is dependent upon wind speed, direction, and general air turbulence.
6. <u>UNIQUE, ENDANGERED,</u>						There are no wetlands, nor unique or endangered

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
FRAGILE, or LIMITED environmental resources						species on site. Although not seen on or near the site during inspections, bald eagles are prevalent up and down the Gallatin River Corridor. Early this year, DEQ completed the final EIS on possible designation of the Gallatin River from Yellowstone Park to Spanish Creek as an outstanding resource water (ORW). The study area stops about 6 miles south of the proposed pit. DEQ's Board of Environmental Review is considering a proposed rule to designate this reach of the Gallatin River as an ORW. If the rule is adopted, legislative approval is required before the rule becomes effective.
BIOLOGICAL ENVIRONMENT						
1. VEGETATION; quantity, quality, species			X		X	This site is an irrigated pasture/hayland. It was plowed and planted with grasses adaptable to irrigation including mountain brome. The proposed post-mine wildlife pond feature would permanently remove forage grasses from about 6 acres of irrigated field. The facilities area would suffer minimal impact because of the short duration of the project and limited size and disturbance. The portion of the site not occupied by water in the pond would be reclaimed by 2010 to pasture with intermediate wheatgrass, Brogowski rye grass, and alfalfa. Water tolerant species would be planted around the edge of the pond, if they do not naturally invade the area, to provide habitat for wildlife. Reclamation to a pond would result in a slight decrease in forage productivity. The pond would add a calm water habitat similar to an oxbow area, which is different from the Gallatin River riparian habitat nearby.
2. TERRESTRIAL, AVIAN, and AQUATIC; species and habitats			X		X	Deer, waterfowl, and raptors are the major species inhabiting the area. The pond would allow different species to use the area including animals that do not usually occupy the rapid-flowing river. It would provide habitat akin to an oxbow in a maturing river system. The Montana Natural Heritage Program has records for a great blue heron rookery with 12 nests located

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						approximately a half mile south of the proposed mine site. The rookery is still active. Nesting may be occurring when the mine commences operations. No trees would be impacted by the proposed operation. Mining would not disturb any heron feeding grounds in the area. It is unknown if the mining noise or activity would disturb the birds, but the landowner stated that they have worked with chain saws and farm equipment near the rookery with no apparent adverse impacts. No other species of concern were identified. Mining would have minimal impact because of the relatively small area that would be disturbed and because of the short timeframe of mining activity.
3. AGRICULTURE; grazing, crops Production			X		X	Mining would result in a minimal short term reduction of vegetation and permanent reduction of 6 acres of pasture.
HUMAN ENVIRONMENT						
1. SOCIAL; structures and mores			X		X	
2. CULTURAL uniqueness/diversity			X		X	
3. POPULATION; quantity/diversity			X		X	At this time about six homes are located along Gateway South Road in the 3.5 miles between the proposed pit and the road's intersection with Highway 191 to the south.
4. HOUSING; quantity/distribution			X		X	
5. HUMAN HEALTH & SAFETY			X		X	There would be a short term increase in truck traffic on Gateway South Road and Highway 191 south through the canyon to the job site for the duration of the construction.
6. COMMUNITY & PERSONAL INCOME			X		X	There may be a minimal loss of income from tourists during construction. Road reports on the radio advertise construction projects. Some tourists may take other routes to the Park, such as up the Madison Valley. This impact would occur with or without approval of the Fluke permit.
7. EMPLOYMENT; quantity, distribution			X		X	This is a short term project and would have minimal impact on employment. A few locals sometimes are

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						hired as flag people.
8. TAX BASE; state/local tax revenue			X		X	
9. GOVERNMENT SERVICES; demand			X		X	
10. INDUSTRIAL, COMMERCIAL and AGRICULTURAL activities			X		X	
11. HISTORICAL and ARCHAEOLOGICAL			X		X	A walkover of the area did not reveal any artifacts or signs of occupation. No signs were evident at depth in the previously disturbed area along the ditches and roadway. If during operations resources were to be discovered, activities would be halted, or temporarily moved to another area in the pit until State Historic Preservation Office was contacted and the importance of the find was determined.
12. AESTHETICS			X		X	Several homes are located more than 1,000 feet to the north of the site and access road. Two other homes are located across the road and about 1,000 feet from the proposed pit. Given the proposed location of the access road, almost all of the truck traffic would go past the last two homes and about four homes located along the county road on the way south to Highway 191. The truck traffic would continue south on 191 to the construction job. Truck traffic for the road construction job would not go north through Gallatin Gateway. Hauling out the 75,000 yards of material (primarily asphalt) from the mine site would average about 80 truck trips or average daily traffic (ADT) per day. That is 40 loaded trucks and 40 empty returns. However this number would fluctuate based upon what was actually occurring at the highway job site to the south. The most traffic would occur while hauling asphalt which is scheduled to take 3 to 4 weeks. The county road department has issued an Encroachment Permit for this pit (attached). Through that permit dust suppressant and road maintenance responsibilities with Prince, Inc., the

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						principal contractor of the MDT job, have been confirmed. Eleven stipulations are required in that permit. One stipulation refers to dust suppression by the application of magnesium chloride and maintenance of Gateway South Road. Major activity on the construction job is scheduled from April to August 2007. Hours of operation of the crusher would be 24 hours per day, 9 days on and 5 days off. The crushing operation should be about 6 to 8 weeks long and would operate during the first part of that construction period. Asphalt plant operations and hauling hours would generally follow MDT guidelines, which would be from about 6 a.m. to 9 p.m. Noise and odor from the asphalt plant would probably be from the mid-June into August. Noise in the area would increase. Certainly nearby homes would hear activity at the Fluke site. Wind direction, speed, and distance would be factors affecting whether both the Nuss and Fluke pits would be audible at the same time. The Nuss Pit is audible, mainly in the mornings, at homes near the proposed Fluke site. By far the most penetrating and far reaching noise is from backup alarms. The Fluke site daily hours of operation would be longer than those of the Nuss Pit and therefore would extend the noise period. Residents near the Fluke site can hear the Nuss Pit crusher and operations, mainly in the early morning. However, depending upon wind direction and other factors, they can be heard throughout the day. One would assume that the Fluke pit operations would be audible to persons living near the Nuss Pit. Because the Nuss Pit is a long-term commercial operation, its hours of operation are shorter than those requested for the Fluke Pit. If the construction period were to change, the actual months of construction would be different but the lengths of time for the crusher and road construction would be very similar. After road construction, if there is any excess material, it may be sold and removed during normal

				POTENTIAL IMPACTS		
	A	B	C	L	S	EXPLANATION
						business hours of 7 a.m. to 7 p.m. 5 days a week. The Nuss Pit is about 1 mile north of the Fluke location. DEQ has no authority to regulate traffic on public roads. The mine's truck traffic would be routed away from Gallatin Gateway as stated in the application and in the county road department's Encroachment Permit. It is unknown if other traffic would avoid Gallatin Gateway. Not many deliveries are made to gravel pits. They are not much more extensive than fuel and later in the summer cement and asphalt tankers. Approximately nine persons would work at the pit during the crushing phase. The construction and asphalting work would need about 30 persons as truckers, plant operators, pavers, and roller operators. Work locations would be split between the pit and the Big Sky construction site. Employees may stay anywhere, and therefore their routes to and from the pit are unknown.
13. ENVIRONMENTAL PLANS and GOALS; local and regional			X		X	
14. DEMANDS on ENVIRON-MENTAL RESOURCES of land, water, air and energy			X		X	
15. TRANSPORTATION; networks and traffic flows			X		X	This material is for reconstruction, overlay and chip-sealing of Highway 191 between the Big Sky turnoff and the Yellowstone Park boundary about 20 miles to the south. It is the major route into the Park and to West Yellowstone in this part of the state. There would be heavy truck traffic on the county road and the highway for about 4 months.

REGULATORY IMPACT ON PRIVATE PROPERTY: The analysis done in response to the Private Property Assessment Act indicates no impact. The Department does not plan to deny the application or impose conditions that would restrict the use of private property so as to constitute a taking.

PUBLIC INVOLVEMENT: Landowner, Noble Ditch directors, local residents, Natural Heritage Program, State Historic Preservation Office

OTHER GROUPS OR AGENCIES CONTACTED OR WHICH MAY HAVE OVERLAPPING JURISDICTION:

Air Resources Management Bureau, Mining Safety and Health, Montana Department of Natural Resources and Conservation, Gallatin County Commissioners, Gallatin County Weed Board, Gallatin County Road Department

ALTERNATIVES CONSIDERED: Denial

RECOMMENDATIONS CONCERNING PREPARATION OF AN EIS: Unnecessary, No Significant Impacts

Prepared by Jo Stephen, 4/07